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January 12, 2011

Chip Humphrey
U.S. Environmental Protection Agency, Region 10
805 SW Broadway, Suite 500
Portland, OR 97205

Re: December 21, 2010 EPA Letter on the Status of the Portland Harbor Feasibility Study; September 27, 2010 EPA Letter on the Benthic Risk Evaluation; and December 8, 2010 EPA Letter on General Responses to EPA Non-Directed RI, BHHRA and BERA Comments. Lower Willamette River, Portland Harbor Superfund Site, USEPA Docket No: CERCLA-10-2001-0240)

Dear Chip:

This letter provides the Lower Willamette Group (LWG) response to EPA's December 21, 2010, letter regarding the Feasibility Study (FS), and to EPA's September 27, 2010, and December 8, 2010, comment letters on the draft October 2009 Remedial Investigation (draft RI) and September 2009 draft risk assessments (Baseline Human Health Risk Assessment [BHHRA] and Baseline Ecological Risk Assessment [BERA]). We believe this letter provides a productive route for closure on EPA's nearly 1,000 comments on the draft RI, BHHRA, and BERA and, equally important, sets the stage for continued development of the draft FS as the next step toward an implementable Record of Decision.

Overview

The LWG's overriding goal remains to prepare a technically and legally sound Remedial Investigation/Feasibility Study (RI/FS) that fulfills the LWG's Administrative Settlement Agreement and Order on Consent (AOC), complies with the National Contingency Plan, and sets the foundation for selecting a sediment remedy that is protective of human health and the environment. The LWG has spent more than \$80 million on the Portland Harbor Superfund Site study phase, and we want EPA to be able to transition to the cleanup phase as soon as possible.

In ten years the LWG has worked through all of the directives required by EPA without the need to invoke and complete dispute resolution. In all cases, we have been able to work through issues and differences, and we hope to continue our cooperative relationship as we prepare to deliver the FS. The LWG is committed to delivering a FS that is based on sound science, and helps EPA evaluate remedial options that are protective, implementable, and affordable for our region. To achieve this goal the June 2011 deadline for the draft FS submittal should be extended.

To prepare the FS, the LWG has been relying on feedback from EPA on the Draft RI and risk assessments submitted in fall 2009. In EPA's December 2009 comments on the RI and risk assessments, EPA said it thought the reports contained all the relevant data necessary to proceed with the FS. The LWG proceeded with work on FS-related tasks on that basis. Subsequently EPA provided nearly 1,000 comments to the LWG in July 2010, and followed with additional directive comments in September and December 2010 that require additional analyses and the incorporation of new data not collected by the LWG into the RI and risk assessments. EPA recently clarified that this direction also requires revisions to the FS database. This week EPA and LWG are still resolving the benthic toxicity model directive that will help define the areas requiring analysis in the FS. These new EPA directives impact FS-related analyses and the FS schedule.

This letter outlines a path forward to resolve the three remaining directives on the RI and risk assessments (dated December 8, 2010) as well as the directive on the benthic model (dated September 27, 2010) in order to facilitate completion of the draft FS. If EPA agrees with the proposed path the LWG will not dispute the directives.

To produce the FS, the RI and risk assessments must be brought to resolution. This letter outlines a path forward to resolve the three remaining directives on the RI and risk assessments (dated December 8, 2010) as well as the directive on the benthic model (dated September 27, 2010). If EPA agrees the LWG will not dispute the directives. Taking into account the substantial additional work remaining on the RI and risk assessments, delivery of a draft FS by June 15, 2011 is neither advisable nor feasible. While some work can be accomplished simultaneously, other work is by definition sequential and cannot be performed simultaneously. In this case, EPA's delivery of RI and risk assessment comments and directives affecting development of the FS as late as December 2010 means the LWG would be submitting a draft FS prior to submission of the revised RI and risk assessments. Doing so carries a significant risk of the FS being rushed, incomplete, and having limited value for EPA in developing the proposed plan. Per EPA's letter of December 21, 2010, we accept your offer to meet at your earliest convenience in order to discuss the overall process, including an appropriate schedule to bring these complex and interlocking deliverables to completion without sacrificing their quality.

Feasibility Study (EPA Letter of December 21, 2010)

In early 2009, EPA and LWG implemented an expedited FS development schedule whereby the FS was initiated prior to finalization of the baseline risk assessments. This approach was a divergence from the process outlined in the AOC but agreed to by the LWG and EPA in order to enable EPA to transition to cleanup decisions on a more expedited time frame.

The ability to maintain that expedited FS development schedule was critically dependent upon a number of conditions, including:

- No changes to the FS database;
- EPA providing comments on the draft risk assessments that could impact the FS development by end of December 2009;
- EPA providing comments on the benthic risk evaluation; and

- EPA providing feedback and buy-in on the Fate and Transport model calibration, all so that work on the FS could proceed without changes in the data that had to be considered or changes in the assumptions on which the FS was being developed.

EPA's Comments on the Draft Remedial Investigation:

EPA's December 8, 2010, comment letter directs the LWG to include additional data in the RI and RA database. EPA has clarified that this direction also requires that some of this new data must be included in the FS database. Changing the FS database results in changes to the schedule for completing the draft FS. For example, dozens of chemicals will have to be re-mapped which results in revisions to the areas and volumes of sediment to be considered in the FS. This in turn impacts the alternatives development and the comparative analysis of remedial alternatives.

EPA's Comments on the Draft Risk Assessments: On December 23, 2009, EPA provided preliminary comments on the draft BHHRA and draft BERA to identify key issues for consideration in the expedited FS, and to facilitate maintaining the expedited schedule. EPA indicated that it was not able to provide its benthic risk evaluation at that time, and that those comments should be provided to the LWG by spring 2010. On July 19, 2010, EPA provided detailed comments on the draft RI report, BHHRA, and BERA but again deferred its comments on the benthic approach presented in the draft BERA. At that time, EPA advised the LWG that it would provide comments on the benthic approach, including an alternate approach for evaluating benthic risk, later that summer. However, the July 19 comments on the draft risk assessments included directives to include new data sets (e.g., bird egg data and fish tissue data), new risk scenarios (e.g., combined child and adult scenarios), and new chemicals of concern (i.e., PBDE) and to incorporate additional sediment data not collected by the LWG into the FS database. Each of these directives has a direct impact on development of the draft FS.

EPA Feedback on the Benthic Risk Evaluation: EPA comments on the benthic risk evaluation and a predictive benthic toxicity logistic regression model (LRM) developed by NOAA were finally provided to the LWG on September 27, 2010. EPA and the LWG exchanged a great deal of information and met many times in late 2010 and early 2011 to resolve outstanding benthic evaluation issues, including errors in NOAA's LRM model. As recently as January 4, 2011, EPA was still providing critical information regarding NOAA's LRM that had the potential to fundamentally impact the outcome of the model and, therefore, the definition of the areas of benthic risk to be evaluated in the FS.

EPA Feedback and Buy-in on the Fate & Transport Model Calibration: Delays with EPA approval of calibration led to a much more compressed timeframe for modeling implementation and LWG review than was contemplated in the original plan to expedite FS development. Although the F&T model is state of the art, well calibrated, and supported by a robust data set, as of December 2010, the compressed time frame did not allow the LWG itself to review and understand key aspects of the F&T model.

Because so many building blocks for the expedited FS schedule were delayed, the LWG was not confident in November 2010 that the Alternatives Screening check-in scheduled for December

2010 would provide the appropriate range of realistic, implementable alternatives for the detailed evaluation of the draft FS. Some of the contributing factors including:

- the timeframe for EPA input on the risk assessments was extended;
- the LWG was required to put significant time and effort into resolving EPA's July RI and risk assessment comments;
- key RI and risk issues were not resolved by late Fall 2010; and
- a clear summary of EPA risk management considerations to support development of a full and appropriate set of alternatives to be carried into the detailed analysis in the FS was still outstanding.

It was clear to the LWG that the final resolution of these remaining key issues could result in significant changes to the Alternatives Screening analyses. Therefore, the LWG notified EPA on November 17, 2010, that it was best to scale back the scope of the December check-in in the absence of resolution of these key issues.

We disagree with the EPA's assertion that the LWG has not complied with the AOC because we were unable to provide a complete Alternatives Screening Analysis on December 14, 2010. A complete Alternative Screening Analysis cannot be presented without resolution of the issues described in this letter. The Alternative Screening Analysis is a step in the process where the data that has been collected is used to determine where risks to human and ecological health are located and how to start evaluating which cleanup alternatives might work to reduce those risks in the sediments and near shore areas of the Lower Willamette.

Because the RI and risk assessments, both logically and legally, form a significant part of the foundation for the FS, the LWG believes that EPA and the LWG must reach agreement on the substantive contents and conclusions of the RI and baseline risk assessments before the draft FS can be completed and submitted to EPA. With the approach outlined in this letter, the LWG will move forward with completing the risk assessments and use the results to develop recommended comprehensive risk management approaches for use in the FS. The effort to revise the RI and risk assessments and incorporate the risk assessment results into a risk management framework will likely take significant effort and time. Therefore, this has a significant impact on the FS schedule.

The LWG will deliver a draft FS that is consistent with the AOC, the NCP and guidance. We agree with EPA that the FS needs to be objective and transparent. We expect the FS to be approvable by EPA and to provide the basis for EPA's Proposed Plan and ROD. To achieve these goals, a re-evaluation of the draft FS deadline is necessary in the context of the schedule for the Proposed Plan and ROD. The LWG hopes to meet with EPA very soon to complete discussions regarding establishing a comprehensive schedule for completing the LWG's RI/FS and EPA's Proposed Plan and ROD.

Draft RI, BHHRA, and BERA (EPA Letter December 8, 2010)

The LWG has worked diligently with EPA to resolve EPA's July 19, 2010 comments (both directed and non-directed) on the draft RI, BHHRA, and BERA. The July 19 letter declined to provide comments on the BERA benthic risk evaluation; those comments were provided on September 27, 2010. LWG and EPA agreed to categorize all the comments into a list of key issues in order to streamline the process of resolving the comments. On September 15, 2010, following a number of meetings to discuss EPA's directive comments on the BHHRA and BERA, the LWG submitted to EPA a table of responses to the July 19 directed comments. On September 22, 2010, EPA's response letter indicated that, with clarifications, EPA and LWG were in agreement on the framework to address the July 19 directive comments. On November 18, 2010, following several meetings to discuss issues raised by the EPA non-directed comments, the LWG submitted to EPA a summary table of responses to the July 19 non-directed comments. EPA's response letter of December 8, 2010, provided confirmation that EPA and the LWG are in agreement on the vast majority of the issues raised by the comments. However, the December 8 letter directed the LWG to perform three additional tasks to complete the RI and BHHRA: (1) move the RI data lockdown date from June 2008 to July 19, 2010 and include specific data sets directed by EPA; (2) draft the conceptual site model to link both current and historical sources to in-water contamination; and (3) include EPA PBDE fish tissue data in the BHHRA. This letter describes how the LWG will comply with these three directed comments.

On a separate negotiation path, it was recognized by EPA and LWG that additional discussions were necessary to resolve the benthic risk evaluation (in particular, if and how to incorporate NOAA's Logistic Regression Model into the BERA). The established goal was to have the benthic risk evaluation issues resolved by December 1, 2010, with full EPA buy-in by mid-December, with outputs ready for LWG use by mid-January 2011. This letter also describes how the LWG will complete its evaluation of benthic risk for the BERA.

1. Data Lockdown

The LWG continues to maintain that the data utilized in the draft RI (i.e., June 2008 Data Lockdown) are adequate to finalize the RI and fully comply with the requirements of the AOC. Until it has evaluated the data, the LWG will not know whether the additional data EPA has asked it to consider meet the quality assurance/quality control requirements for inclusion in the RI as established in the Programmatic Work Plan and QAPP. Nonetheless, the LWG will not dispute EPA's directive to include particular data collected after the June 2008 lockdown date, but we do not agree with EPA that these additional data are necessary to finalize the RI. In addition, EPA has acknowledged that these additional data do not have to be incorporated into the risk assessments (except for the PBDE and bird egg data), because they will not alter the analyses or conclusions of the revised risk assessments.

In order to resolve the data lockdown issue, the LWG will comply with EPA's directive by including the additional data identified on Attachment A, which include the specific data sets listed in EPA's letter of December 8, 2010 and additional significant data sets identified by LWG as directed by the EPA letter, provided such data meet the RI QA/QC requirements and the

contemplated uses of the data are appropriate. The LWG continues to question the relevance of these data to the RI and maintains that this issue could have been best addressed per our previous agreement with EPA to include post-June 2008 data sets in the draft FS if they are deemed value-added to the FS analyses (e.g., demonstrated a significant difference in nature and extent of contamination in a particular portion of the study area).

As previously indicated to EPA, there will be schedule implications associated with including these data since the LWG must perform a quality control review of the data sets, incorporate the data into our electronic database, incorporate the data into our GIS program, and generate the EPA-directed text, tables, and figures, consistent with appropriate limitations on the use of the data.

Please confirm that EPA agrees that, with the inclusion of the data sets identified on Attachment A, the data set for the RI is complete, and EPA will not direct that additional data be included. If EPA does not agree, the LWG respectfully invokes dispute resolution on this issue for the reasons stated in this and prior correspondence.

2. Inclusion of PBDE Fish Tissue Data in the BHHRA

PBDE has not previously been identified as a contaminant of interest (COI) for the Portland Harbor site, and EPA's direction to include its PBDE fish tissue data in the RI and BHHRA is inconsistent with the EPA-approved Portland Harbor QAPP. In addition, EPA's PBDE data were not collected with the intent to include them in the Portland Harbor BHHRA; they are a limited data set and there are no co-located sediment data. Nonetheless, the LWG will comply with EPA's direction to perform additional risk assessment work to include PBDE fish tissue data in the revised BHHRA for informational purposes only. The LWG will need to perform the required QA/QC evaluation of this data in accordance with our approved QAPP to determine its adequacy and acceptability for such use. Per EPA's previous acknowledgement, PRGs for PBDE cannot be generated and therefore PBDE will not be carried forward into the draft FS.

Please confirm that EPA agrees that, with the inclusion of the PBDE data in the BHHRA, EPA will not direct that any additional data be evaluated in the BHHRA or the BERA.

3. Conceptual Site Model

EPA's December 8 letter directs the LWG to provide detailed information on potential current and historical sources of contamination to the Study Area. The LWG's obligation under the AOC is to

“identify source areas that *are contributing* to contamination to the in-water portion of the Site. Although DEQ is primarily responsible for the control of upland contaminant sources to the Site, as part of the RI/FS, [the LWG] shall evaluate the distributions of sediment contaminants and, if appropriate (e.g. if the sediment data suggest the presence of an ongoing source), make recommendations to EPA and DEQ if the need for further investigation or control of sources is identified.”

Statement of Work, §7.4 (emphasis added). The LWG met this obligation in its many submittals thus far that identify source areas that are contributing to in-water sediment contamination,

including Section 3 of the Programmatic Work Plan, Section 5 of the Round 2 Report and Section 4 of the Draft RI, each of which includes tables that compile source information.

There is no available comprehensive compilation of historical sources “that are contributing” and, although the above-cited information presented by the LWG identifies many specific sources of contamination, the LWG has made it clear that it is not an exhaustive list of current or historical sources of contamination. The Oregon Department of Environmental Quality (DEQ) is the lead agency tasked with implementing the on-going source identification and control efforts for the Portland Harbor Superfund Site (i.e., per the EPA/DEQ Joint Source Control Strategy Memorandum of Understanding, and as referenced in the EPA/LWG Administrative Order). The LWG understands that DEQ is not investigating or tabulating historical releases that are not considered on-going sources, and the LWG believes that it also does not have an obligation under the AOC to comprehensively research, compile and analyze such historical releases.

The most comprehensive source for historical release information is likely the EPA 104(e) responses. At EPA’s request, LWG members have deferred submitting public records requests for this information to allow EPA time to process the information, and the LWG members have access to this information only as it is submitted in EPA-processed batches to the Portland Harbor allocation process. Therefore, the LWG does not have access to all of the non-LWG 104(e) responses. And, as EPA is certainly aware based on its review of the information, the volume of information received by EPA is so great that detailed review of the information, if the LWG had it all, would delay completion of the RI report by many months, if not a year or more, and any resulting LWG analysis would be highly contentious.

Nor does the LWG have any information beyond what has been compiled by DEQ as to the assessment and evaluation of upland contamination and contaminant migration pathways. The LWG has no access or authority to collect upland data, and it has no control over whether or under what standards such data are collected at all. The LWG’s scope of work did not include evaluating upland data beyond the identification of sources required by SOW section 7.4, which the LWG has done. EPA previously agreed that, for purpose of providing the information on upland pathways necessary for the FS, DEQ and EPA would review and propose updates to the FS Source Tables. That process has been followed, and the LWG is currently reviewing the input that was provided by DEQ and EPA to those tables on November 23, 2010 for inclusion in the FS.

The LWG understands that EPA desires a broader discussion in the RI of upland contamination and contamination migration pathways. Based on the extension on the dispute deadline granted by EPA on this issue (i.e., to January 28, 2011), LWG will continue to discuss this with EPA in order to obtain clarification on EPA’s direction.

Benthic Risk Evaluation (EPA Letter of September 27, 2010)

In response to EPA's September 27, 2010 comments on the Benthic Risk Evaluation, the LWG and EPA met several times in November and December 2010 to discuss the benthic approach, including whether to incorporate the use of NOAA's LRM model into the revised draft BERA. Based on that discussion, we believe that we have identified a mutually agreeable path forward on how benthic risk will be evaluated in the revised draft BERA. The elements of that path forward are set forward in Attachment B.

Please confirm that the approach described in Attachment B successfully resolves all directive or potentially directive EPA comments on the draft benthic BERA. If EPA does not agree that LWG's approach to complete the benthic risk assessment is sufficient to comply with EPA's directed comments, the LWG respectfully invokes dispute resolution on this issue for the reasons stated in this and prior communications.

Final Resolution of Contents of the RI and Risk Assessments

Having fully addressed EPA's July 19, September 27 and December 8, 2010 comments on the draft RI and risk assessments, the LWG understands that the final contents of the RI and risk assessments have been determined, and EPA will not direct the incorporation of additional data or evaluations in subsequent drafts of these documents.

Conclusion

The LWG is committed to completing the RI and risk assessments through to final approval, preparing a FS on a realistic and expedited schedule that ensures a high-quality deliverable, and working with EPA on an overall schedule and path to a final Record of Decision. In practice, the expedited FS schedule has proved very challenging to both the LWG and the Government teams. The LWG is willing to accept EPA's directives as outlined in this letter in order to expedite completion of the FS. The current June 15, 2011 deadline, however, was based on the assumption that the LWG would have a complete set of EPA comments on the RI and risk assessments in the summer of 2010 and that there would not be significant revisions to the RI and risk assessments. Due to the significant technical complexities involved in concluding the RI and risk assessments and the addition of new EPA directives into December 2010, the current schedule is no longer achievable. A draft FS by June 15, 2011 would put the draft FS at significant risk of being hastily developed and potentially result in a document that is inconsistent with the risk assessments and cannot be approved by EPA. Therefore, to the extent that EPA's December 21 letter contains a direction to submit the draft FS in June 2011, unless EPA agrees to work with the LWG on a revised FS schedule, the LWG has no alternative but to dispute that direction.

Per your December 21, letter, we accept your invitation to meet with you at your earliest convenience to discuss the overall process, including a complete project schedule through to a final Record of Decision. We will also continue to work cooperatively with EPA to jointly communicate with key stakeholders at the site to keep them informed about how we are moving

Chip Humphrey
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towards a FS that can successfully be used by EPA to craft the Proposed Plan and eventual Record of Decision.

Sincerely,



Bob Wyatt

cc: Confederated Tribes and Bands of the Yakama Nation
 Confederated Tribes of the Grand Ronde Community of Oregon
 Confederated Tribes of Siletz Indians of Oregon
 Confederated Tribes of the Umatilla Indian Reservation
 Confederated Tribes of the Warm Springs Reservation of Oregon
 Nez Perce Tribe
 Oregon Department of Fish & Wildlife
 United States Fish & Wildlife
 Oregon Department of Environmental Quality
 LWG Legal
 LWG Repository

Attachment A—

Data Sets to be Added to RI

1. T4 Abatement Phase 1 - Construction Phase 1 - Dredging and Capping*
2. Chevron Willbridge Terminal 2008/2009 Pre-dredge Sediment Characterization*
3. Ash Grove Cement Rivergate Plant Sediment Cores, Willamette River *
4. CLD Pacific Grain Post-dredge Sediment Data*
5. Glacier Northwest Cement Terminal Pre-dredge Characterization*
6. Goldendale Aluminum Company Pre-dredge Characterization*
7. City of Portland RM11E Sediment Data*
8. 2007/08 Maul Foster Alongi Zidell Sediment Data
9. 2009 Interim Construction Report, Revetment SCM at Arco Terminal 22T
10. EPA's PBDE data in LWG Sediment Grab Samples
11. EPA's 2009 PBDE Fish Tissue Data
12. EPA's Osprey Eggs Data
13. Willamette River FNC Post Office Bar Reach (RM2.2) Sediment Quality Evaluation
14. US Moorings RI 2008 Sediment Sampling
15. Triangle Park Riparian Soil, Final Removal Action Investigation Report
16. City of Portland Downtown Sediment Data, Phase 2
17. City of Portland RM 11 East Focused Sediment Characterization – Bank Soil and Debris Field
18. City of Portland RM 11 East Focused Sediment Characterization – Sediment Traps
19. PGE Downtown (RM 13.1-13.5) Sediment Data
20. PGM Downtown Sediment Data
21. Northwest Pipe & Casing, International Terminals Slip Sediment Data
22. Conoco Philips Pre-dredge Characterization
23. Chevron Pre-dredge Characterization
24. Cascade General/Vigor Pre-dredge Sediment Characterization

Note: The data sets marked with asterisk (*) have already been added to the project database for the draft FS.

Attachment B—

Resolution of EPA September 27, 2010 Comments on Benthic Risk Evaluation

1. The final bioassay hit classifications used to build the benthic toxicity models have been reconciled. These hit classifications differed in 27 out of 1,172 cases from the hit classifications used in the draft BERA. Twenty-five of the 27 differences were due to a change in data rounding procedures, requested by EPA. The other two changes were due to QC errors that have been corrected.
2. The LWG agrees to use the results from NOAA's new site-specific logistic regression model (LRM) in the revised draft BERA, with a P_{\max} threshold for predicting Level 2 bioassay hits of 0.50 and a P_{\max} threshold for predicting Level 3 hits of 0.59. The LWG has agreed to allow Jay Field (NOAA), as the principal developer of the new site-specific LRM, discretion to apply professional judgment in order to get a site-specific LRM that he considers to be most suitable for predicting benthic toxicity in Portland Harbor. Draft documentation for the new LRM was received from EPA on December 10, 2010. Windward reviewed the documentation and concluded that the documentation is sufficient as a draft. Windward will work with Jay Field (NOAA) to finalize the documentation for the revised BERA.

As you know, an error was discovered in the new LRM on December 15. The LWG does not anticipate that other errors will be discovered, but we are not in a position to ensure that. If another error were discovered it would be necessary to stop work and reassess the decision to use the LRM.

3. EPA agrees to use the LWG's individual endpoint floating percentile models (FPMs) with balanced false positive and false negative rates as a condition of resolving the outstanding benthic issues. EPA has given the LWG, as the principal developer of the new FPMs, discretion to apply professional judgment in order to get site-specific FPMs that it considers to be most suitable for predicting benthic toxicity in Portland Harbor, contingent on the objective of balancing false positive and false negative rates. Output from other model runs that yield unbalanced false positive and false negative rates will be presented in an attachment, for the expressed purpose of documenting the work that was done to identify the FPMs with balanced false positive and false negative rates. Those other FPMs will not be used in the BERA. Draft documentation for the new FPMs was provided to EPA on December 1, 2010.
4. All four levels of benthic toxicity predictions will be presented in the BERA for each model (the LRM and the individual endpoint FPMs). EPA acknowledged that the Level 2 benthic toxicity predictions for the *Hyalella* biomass endpoint are unreliable, and instructed the LWG to report the false positive and false negative rates for that model (and the other models) along with the predictions. The LWG is allowed to objectively discuss the reliability of this endpoint in the risk characterization and to account for it in its risk management recommendations.
5. EPA and the LWG recognize that the sediment quality guidelines produced by any model (LRM, FPM or generic SQGs such as PECs or PELs) are intended to be used as a set – not individually. Therefore, the reliability of and uncertainties associated with the set of

chemical SQGs derived from each model will be presented and discussed for each set of SQGs and not for individual chemical SQGs within the set in the revised draft BERA.

6. The individual endpoint FPMs include SQGs for chemicals with insufficient data density or detection frequency to interpolate. Exceedances of those SQGs are to be mapped on a point-by-point basis.
7. Both the LRM and the FPMs include conventional parameters, but in different ways. The FPMs include SQGs for conventional parameters. The LRM uses conventional parameters to predict toxicity in combination with hazardous chemicals (e.g., organic carbon (OC)-normalized concentrations were used in the LRM for some chemicals, some chemicals' concentrations were multiplied by percent fines, and some chemicals' concentrations were both OC-normalized and multiplied by percent fines). The conventional SQG exceedances will be mapped and discussed as factors contributing to benthic toxicity in Portland Harbor. The implications of combining conventionals with hazardous substances will be examined as a source of uncertainty.
8. The generic SQGs that will be used moving ahead in the BERA are PECs and PELs (including mean quotients). This is based on EPA's verbal recommendation during our November-December 2010 meetings to resolve the benthic approach. TECs and TELs may still be used to define clean areas (as in the draft BERA). This represents a reduction in the number of generic SQG sets required to be used by EPA's BERA Problem Formulation.

The PECs and PELs will be used to confirm that the site-specific LRM and FPMs are better than generic SQGs at predicting benthic toxicity in Portland Harbor, based on a comparison of false positive and false negative rates. Once that's been documented, the rest of the risk characterization will be based on the LRM and FPM SQGs.

9. EPA used false positive and false negative rates to evaluate benthic toxicity model reliability and reach resolution on the benthic approach to be used moving ahead in the BERA. This was in lieu of the other reliability statistics provided by EPA on September 29, 2010. In order to be consistent with the resolution, false positive and false negative rates will be focused on in lieu of the other reliability statistics moving ahead in the revised draft BERA, but all of the reliability statistics will be tabulated.
10. EPA and LWG agreed that benthic toxicity model validation is not feasible for Portland Harbor because the bioassay and chemistry data are all used to build and calibrate the models.
11. Moving into the FS, the LWG will use an updated version of the comprehensive benthic analysis that was presented to EPA on September 29, 2010 to define benthic AOPCs. The approach will be updated to use the final reconciled bioassay hit classifications and the benthic toxicity predictions from the revised draft BERA models (LRM and FPMs). The comprehensive benthic approach was designed to be consistent with EPA's April 21, 2010 guidelines for benthic analysis and is a weight-of-evidence approach. EPA's RPM reviewed the April 21 guidelines during the December 13 meeting and indicated that one of the guidelines – consider presence/absence of nearby sources – might not be adequately captured in the comprehensive benthic approach. After a brief discussion it was decided that the issue of whether presence/absence of nearby sources should affect

any particular benthic AOPCs would be addressed in EPA comments on work products that present benthic AOPCs.

12. The benthic approach as described by these elements was developed through the cooperative effort of EPA and the LWG and resolves and supersedes EPA's September 27, 2010 comments on the draft benthic BERA.